

NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) WFO Jackson, Mississippi
MONTHLY REPORT OF HYDROLOGIC CONDITIONS		REPORT FOR: MONTH YEAR October 2009
TO: Hydrometeorological Information Center, W/OH2 NOAA / National Weather Service 1325 East West Highway, Room 7230 Silver Spring, MD 20910-3283		SIGNATURE Alan E. Gerard, Meteorologist In-Charge DATE 11/20/2009

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

☐ An X inside this box indicates that no river flooding occurred within this hydrologic service area.

Synopsis...

The wet trend continued for what is normally the Hydrologic Service Area's (HSA) driest season. Rain for October was at or above normal for all but a very small portion of East Central and Southeast Mississippi. The wettest areas were over Northeast Louisiana and Southeast Arkansas (300 to 600 percent of normal). The driest portion of the HSA was over Jones, Southeast Jasper, and South Clarke Counties (90 to 110 percent of normal).

The month of October opened with the HSA under southerly flow from high pressure stationed over South Carolina. A cold front pushed through the area on the 2nd and stalled off of the Mississippi Coast by the morning of the 3rd. Some damaging winds were reported with this system over Northeast Louisiana on the 1st. Rainfall amounts were widespread over the area from 0.50 to 2.00 inches. The front lifted northward into South Mississippi as a warm front on the 4th. A low pressure system moved along the front during the day. A stationary frontal boundary remained across South Mississippi on the 5th and 6th. Rainfall from the 4th to 6th was widespread with rainfall amounts ranging from 0.50 to 5.00 inches. Some heavier 24 hour totals ending at 7am: 4.02 inches at Belzoni, MS (7th); 3.35 inches at Oak Ridge, LA (6th); and 2.85 inches at Winnsboro 2SE, LA (4th). Another cold front moved into South Mississippi on the 7th and then stalled. The front pushed back to the north as a warm front during the day on the 8th ahead of a developing low pressure center over Texas. Rainfall, mostly less than an inch, was scattered across the HSA during this time. Low pressure moved rapidly to the northeast on the 9th dragging a cold front through the area late in the day. This front produced several tornadoes and damaging winds over Northeast Louisiana, Southeast Arkansas, and Northwest Mississippi. A secondary cold front rapidly crossed the area and moved off of the coast on the 10th. Rainfall for the 9th ranged from 0.25 to 1.50 inches.

The front in the Gulf of Mexico surged northward to the Coastal Louisiana by the morning of the 12th. This produced heavy rainfall over areas north of I-20. A low pressure center formed along the boundary off the Louisiana/Texas Coast. The low moved into East Central Texas on the 13th, then to West Tennessee on the 14th, with a cold front wrapping back through Mississippi and Northeast Louisiana. Rainfall totals from the 12th to the 14th of 3.50 to 7.00 inches fell over Southeast Arkansas, northern Northeast Louisiana and into Northwest Mississippi. Totals elsewhere over the HSA ranged from 0.50 to 3.00 inches. Some heavier 24 hour totals ending at 7am: 5.40 inches at Hazlehurst, MS (14th); 4.37 inches at Rayville, LA (13th); 4.15 inches at Dermott, AR (14th); 3.70 inches at Port Gibson, MS (14th); 3.24 inches at Lake Providence, LA (12th); and 2.98 inches at Lake

Providence, LA (13th). Another low formed along the front on the 15th in Northeast Texas and moved to the southeast along a frontal boundary draped across South Mississippi. By late in the day, the low moved out of Mississippi dragging a cold front behind it. Rainfall over Northeast Louisiana and South Mississippi from the 15th to the 16th ranged from 0.50 to 3.00 inches. Finally, high pressure began building into the area bringing an end to a wet first half of the month. The coldest temperatures of the season poured into the HSA on the 17th and 18th. From the 19th to the 21st, high pressure shifted east and temperatures began to moderate somewhat.

Another cold front pushed across the region from the 22nd into early on the 23rd. Moderate to heavy rainfall and some damaging winds occurred with this system. Rainfall totals ranged from less than a tenth of an inch over East and Southeast Mississippi to around 3.00 inches in the Columbus, MS area. High pressure built into the HSA with crisp fall like weather from 23rd through the 25th.

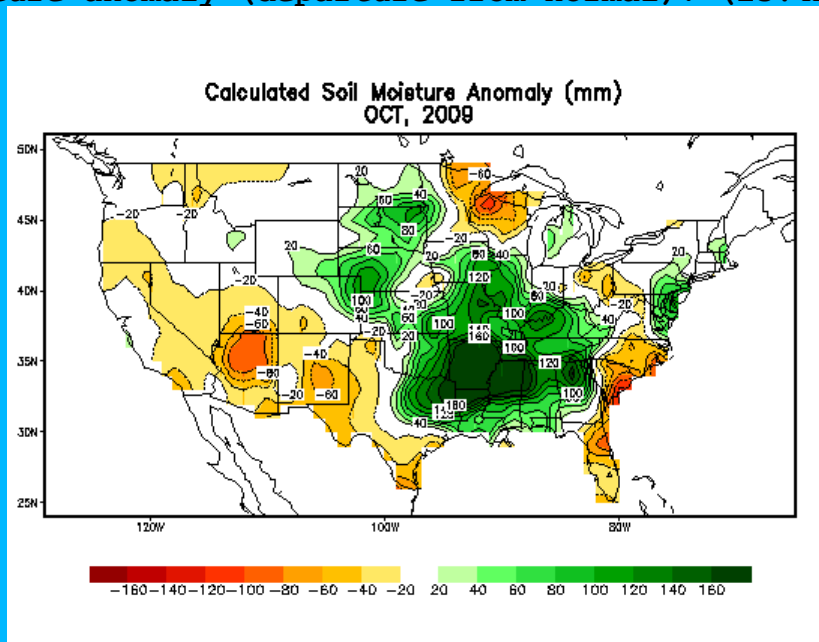
An upper level disturbance with an associated surface cold front pushed through the region on the 27th. Rainfall was mainly over northern portions of the HSA with rainfall generally less than 0.75 inches. On the 28th, a deep upper level trough formed in the Southwest U.S. and began progressing slowly to the east. As the trough trekked eastward, a warm front formed along the Mississippi and Louisiana Coast. With abundant moisture, it began lifting northward on the 29th. By the morning of the 30th, a surface cold front, ahead of the upper trough, had moved slowly into Northeast Louisiana and Southeast Arkansas. Heavy rainfall fell along the front as it slowly pushed to the east. The front moved through the HSA by the evening of the 30th. Rainfall totals ranged from 2.00 to 6.00 inches across Northeast Louisiana and Southeast Arkansas. Some heavier two day rainfall totals from the 29th into the 30th: 4.62 inches at Crossett, AR; 4.57 inches at Bastrop, LA; 4.05 inches at Oak Ridge, LA; 3.50 inches at Rayville, LA; 3.46 inches at Portland, AR; and 3.25 inches at Vicksburg, MS. High pressure began to build into the area on the 31st.

River and Soil Conditions...

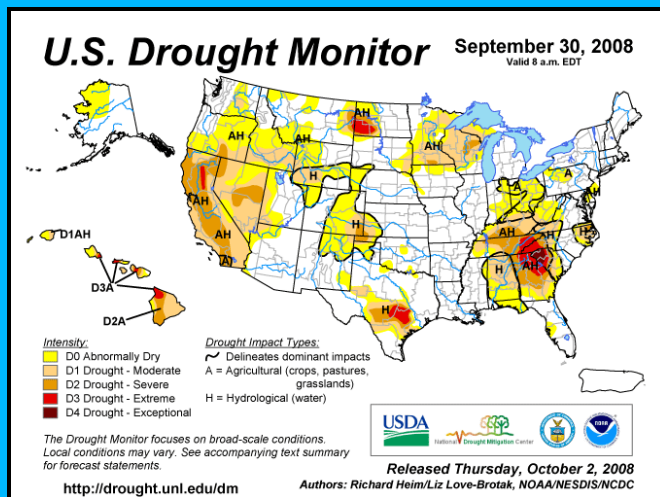
Rainfall was 200 to 600 percent of normal over all but East Central and Southeast Mississippi. Over this area, rainfall ranged from 75 to 200 percent of normal. The driest areas were in Jones, Southeast Jasper and South Clarke Counties.

Soil moisture across the HSA is running from 2.00 inches above normal in Southeast Mississippi to over 7.00 inches above normal in areas north of I-20.

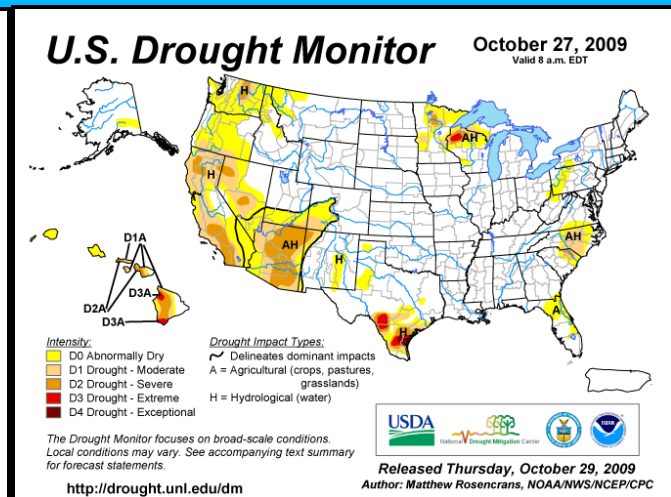
Soil Moisture anomaly (departure from normal): (25.4mm = 1 inch)



A comparison of the September 30th U.S. Drought Monitor to the October 27th Drought Monitor showed drought conditions no longer exist throughout much of the Southeast United States including all of the WFO Jackson HAS.

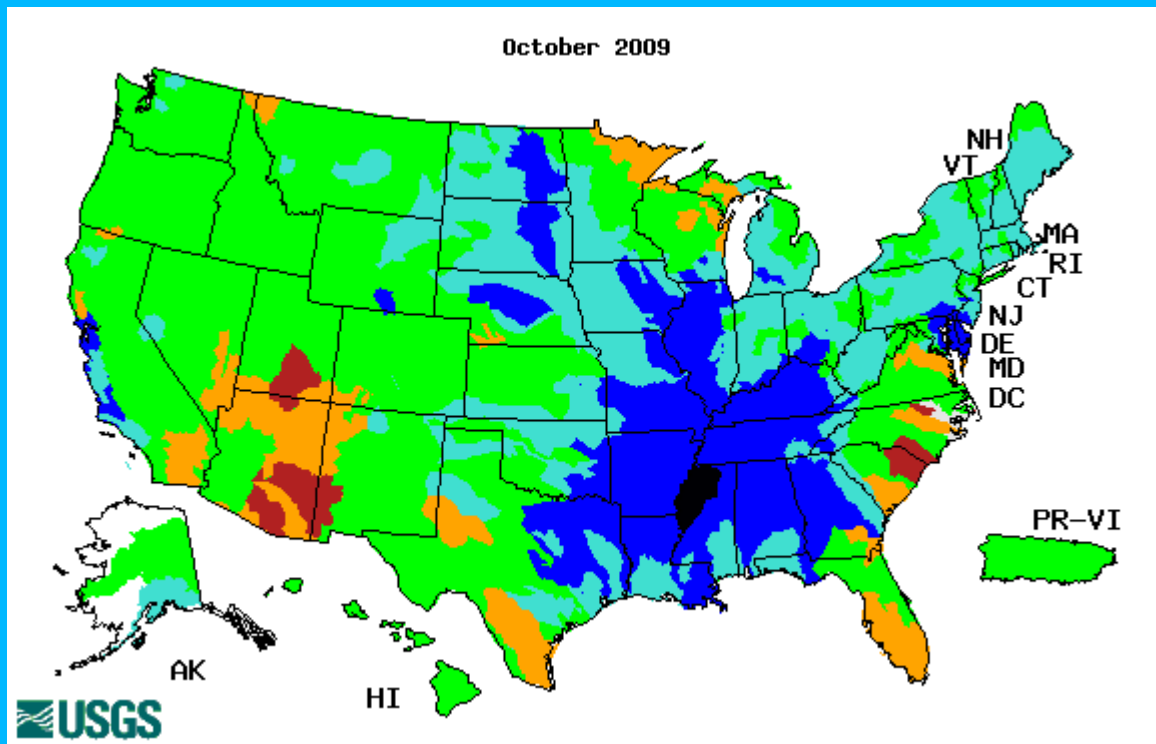


September 30th, 2009



October 27, 2009

The United States Geological Survey's (USGS) October 2009 river streamflow records were compared with all historical October streamflow records. Streamflow was above normal to much above normal along all river systems.



Explanation - Percentile classes					
Low	<10	10-24	25-75	76-90	>90
	Much below normal	Below normal	Normal	Above normal	Much above normal
					High

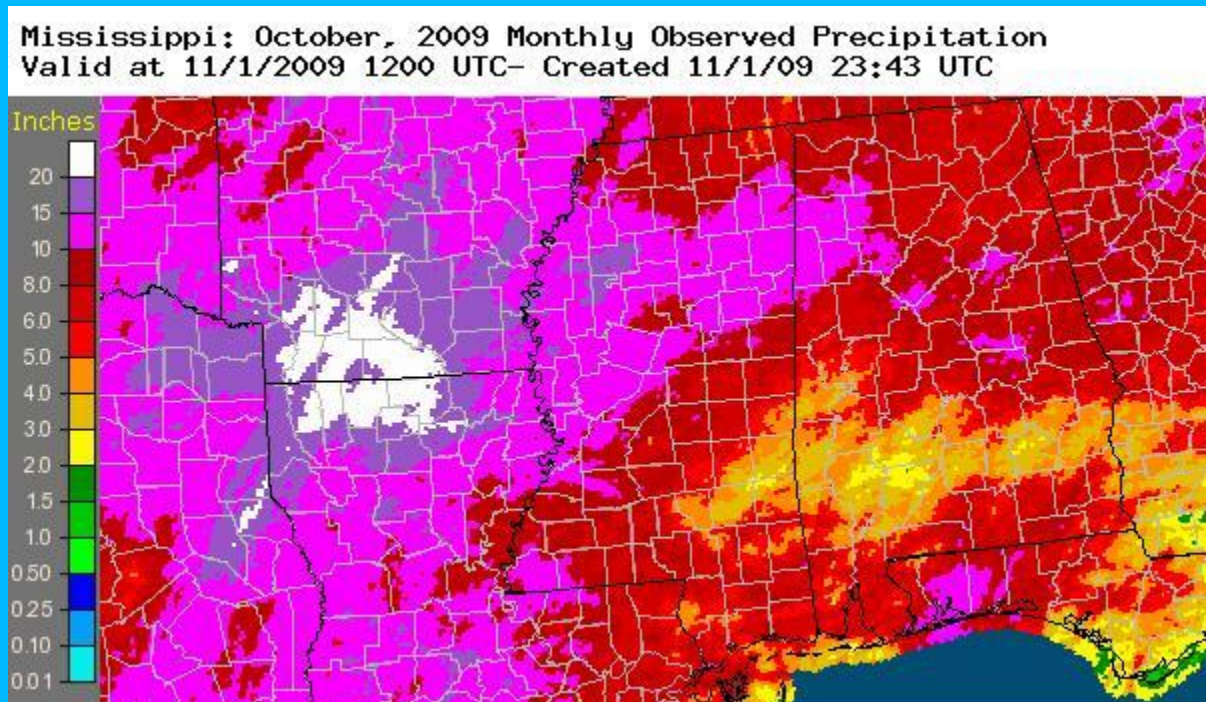
Moderate flooding was observed along the Big Black, Upper Sunflower, and the Lower Boeuf River. Minor flooding occurred on the following rivers: Upper Pearl, Yockanookany, Yalobusha, Lower Yazoo, Lower Sunflower, Tibbee Creek, Luxapallila Creek, and the Noxubee River. Minor rises occurred on most rivers in East Central, South, and Southeast Mississippi while minor to moderate Rises occurred along rivers and bayous in Northeast Louisiana. Flooding also occurred along Bayou Bartholomew in Southeast Arkansas and Northeast Louisiana.

Based on current soil moisture conditions, current streamflow conditions, and a below normal to normal rainfall forecast over the HSA during the next 60 to 90 days:

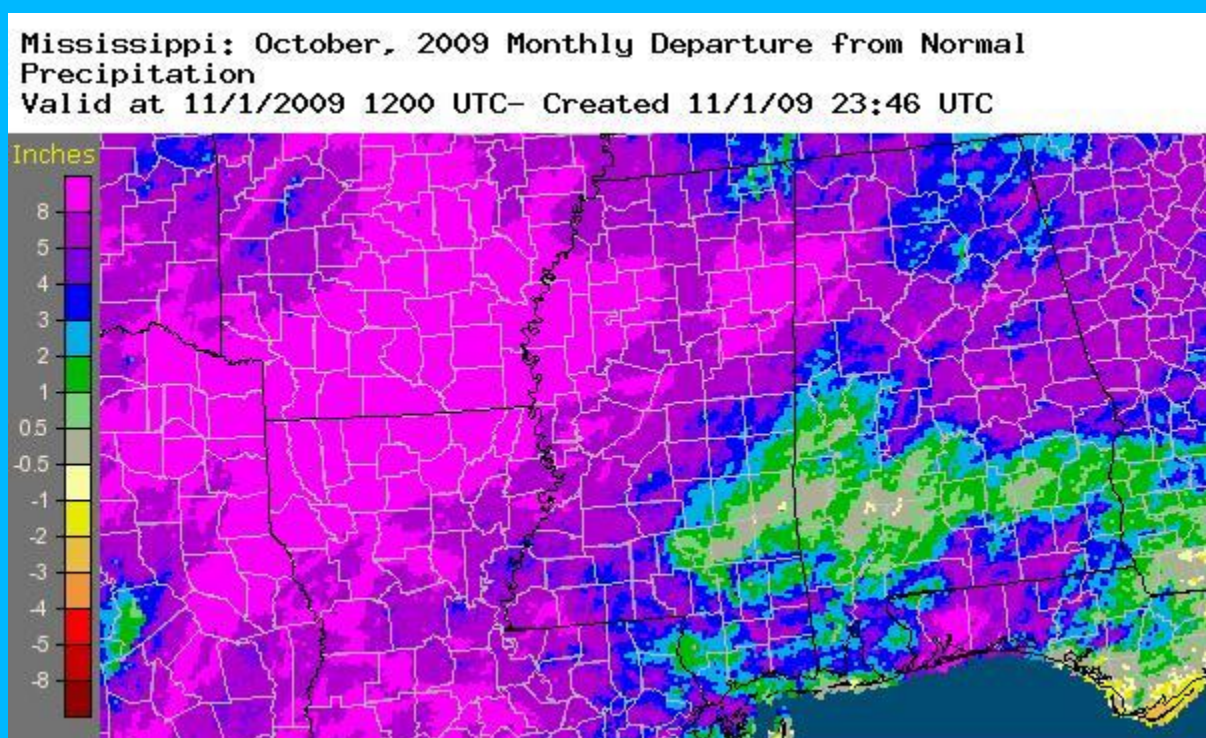
<i>Pearl River System:</i>	Above normal flood potential.
<i>Yazoo River System:</i>	Above normal flood potential.
<i>Big Black River System:</i>	Above normal flood potential.
<i>Homochitto River System:</i>	Normal flood potential.
<i>Pascagoula River System:</i>	Normal flood potential.
<i>Northeast LA and Southeast AR:</i>	Above normal flood potential.
<i>Tombigbee River System:</i>	Above normal flood potential.

Rainfall for the month of October

The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on September 30th until 7 am on October 31st were: 21.89 inches at Bastrop, LA; 18.84 inches at Rayville, LA; 17.84 inches at Lake Providence, LA; 17.33 inches at Crossett, AR; 16.95 inches at Dermott, AR; 16.87 inches at Belzoni, MS; 16.35 inches at Rolling Fork, MS; 16.21 inches at Winnsboro 2SE, LA; and 16.12 inches at Oak Grove, LA.



October 2009 Rainfall Estimates



October 2009 Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

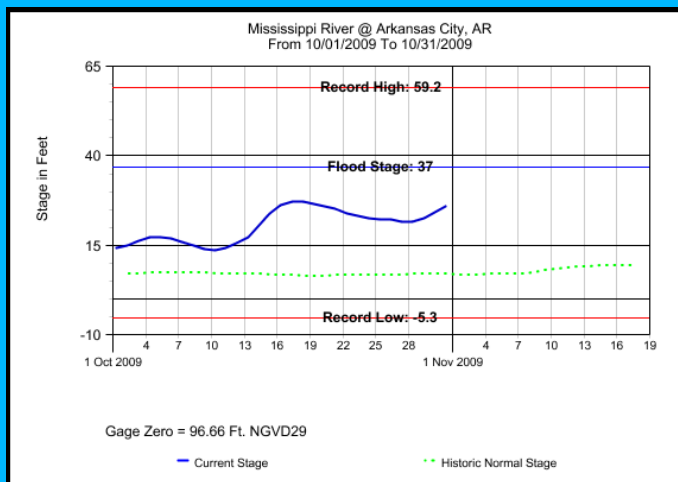
October rainfall for Selected Cities...

City (Airport)	October Rainfall	Departure from normal	2009 Rainfall	2009 Departure from Normal
Jackson, MS	14.13	+6.38	49.32	+3.75
Meridian, MS	5.40	+2.12	47.44	-0.95
Greenwood, MS	11.33	+7.77	61.87	+17.68
Greenville, MS	14.47	+11.08	62.67	+12.32
Hattiesburg, MS	5.29	+1.72	48.21	-3.72
Vicksburg, MS	13.22	+9.47	52.50	+9.83

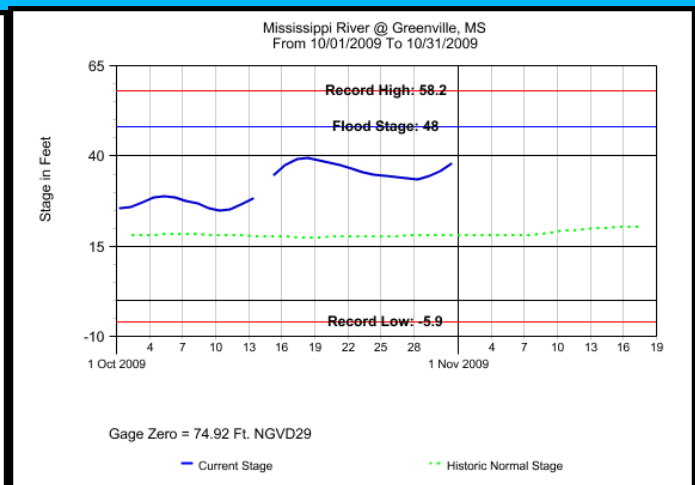
Mississippi River...

Mississippi River Plots for October, 2009

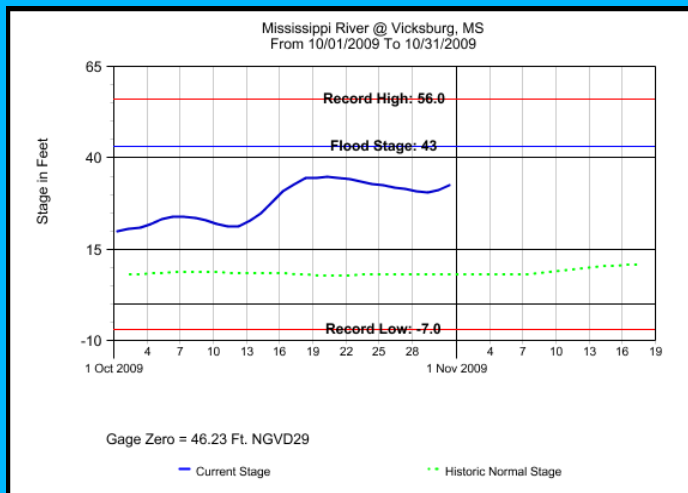
Plots Courtesy of the United States Army Corps of Engineers



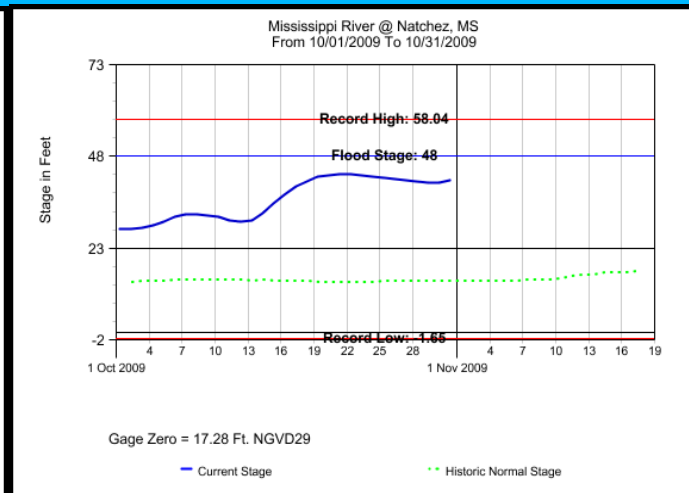
Arkansas City, AR



Greenville, MS



Vicksburg, MS



Natchez, MS

Preliminary high and low stages for the month:

Location	FS	High Stage(ft)	Date	Low Stage(ft)	Date
Arkansas City, AR	37	27.45	10/18/09	13.39	10/10/09
Greenville, MS	48	39.40	10/18/09	24.79	10/10/09
Vicksburg, MS	43	35.01	10/20/09	19.91	10/01/09
Natchez, MS	48	43.21	10/21/09	28.09	10/01/09

Total Flood Warning products issued: 40
 Total Flood Statement products issued: 260
 Daily Rainfall Products (RRA'S) issued: 31
 Daily River Forecast Products (RVS'S) issued: 31
 Daily River Stage products (RVA'S) issued: 31

Marty V. Pope

Service Hydrologist

&

Latrice Maxie

Assistant Hydrologist/Meteorological Forecaster

Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District